

## Abstracts

371

product during the same visit. **CONCLUSION:** Expenditures for OTC medications within the Texas Medicaid Pharmacy Program accounted for 1.1% of total program payments. Clients under the age of 18, especially infants, are the largest beneficiary group of OTC medication coverage within the Texas Medicaid Program.

## PHPI4

**ADDITION OF PHARMACY COST DATA IMPROVES PERFORMANCE OF THE ADJUSTED CLINICAL GROUPS PREDICTIVE MODEL FOR TOTAL HEALTH CARE COSTS OVERALL AND WITHIN DISEASE SPECIFIC GROUPS**

Powers CA, Meyer C, Pierson P, Vaziri B

AdvancePCS, Hunt Valley, MD, USA

**OBJECTIVE:** To determine the effect of adding the pharmacy cost data option to the Adjusted Clinical Groups Predictive Model (ACG-PM) when estimating future total health care costs. **METHODS:** Longitudinal analysis using medical and pharmacy claims data from a large state employer over a 2-year period (baseline May 1, 2001–April 30, 2002; follow-up May 1, 2002–April 30, 2003). Continuously eligible subjects <65 years old at the end of the study period were selected. The total cost Predictive Resource Index from the Johns Hopkins ACG System Version 6.0 was used to predict inflation-adjusted follow-up year total costs per member (medical plus pharmacy) using baseline demographic and diagnosis information, with and without including total pharmacy cost data. Results were compared to actual follow-up year total costs by grouping actual and predicted costs (\$0; \$1–\$1,000; \$1,001–\$5,000; \$5,001–\$10,000; >\$10,000) and comparing the positive predictive value (PPV) within each cost grouping. Sensitivity and specificity were also individually examined. Analyses were additionally conducted within disease-specific subgroups, including diabetes, depression, asthma, and cardiovascular disease. **RESULTS:** In the baseline year, approximately 70% and 75% of the 344,834 included subjects used medical and pharmacy services, respectively. Baseline total cost averaged \$2,665 (median: \$621) and pharmacy cost averaged \$640 (median: \$167). Follow-up mean actual total cost was \$3193 (median: \$748) and mean ACG-PM predicted costs were \$2789 from both models without and with pharmacy costs (respective medians: \$1638; \$1635). Including pharmacy costs in the model increased the PPV, especially at high-cost groups: 40.77% to 48.74% (+7.97%) at >\$10,000 and 23.97% to 28.18% (+4.21%) at \$5,001–\$10,000. PPVs were higher within disease-specific subgroups and increased with inclusion of pharmacy costs, with the highest PPVs in the depression cohort (>10,000: 51.31% (without pharmacy costs) to 58.92% (with pharmacy costs); \$5,000–\$10,000: 29.92% to 35.31%). **CONCLUSIONS:** Addition of pharmacy cost data to the ACG-PM results in more accurate identification of future total health care costs, especially among high-cost members.

## PHPI5

**INCLUDING CARER UTILITY IN ECONOMIC EVALUATIONS: A PRELIMINARY ANALYSIS OF THE IMPLICATIONS FOR FUNDING THRESHOLDS**

Dixon S<sup>1</sup>, McEwan P<sup>2</sup>, Currie CJ<sup>3</sup>

<sup>1</sup>Sheffield University, Sheffield, South Yorkshire, United Kingdom;

<sup>2</sup>Cardiff University, Cardiff, Wales, United Kingdom; <sup>3</sup>University of Wales College of Medicine, Cardiff, Wales, United Kingdom

**OBJECTIVES:** Washington Panel and UK NICE guidelines propose that the health affects of patient care on their carers should be included within the denominator of cost-utility analyses. The impact of patient disability on carers has been demonstrated by directly measuring the quality of life (QoL) of carers

in specific patient populations with substantial informal care needs. However, it is possible that a general relationship between patient and carer quality of life exists, whereby any improvements in patient QoL are mirrored by improvements in carer QoL. If such a general relationship does exist, any intervention that generates additional patient quality adjusted life years (QALYs) will also generate additional carer QALYs. We investigated whether a general relationship between patient and carer QoL exists using the Health Outcomes Data Repository (HODaR). **METHODS:** Using a sample of 15,113 patients we estimated the relationship between utility and time away from normal activities for patients, along with the relationship between patient utility and carer time spent helping patients. For any given patient utility we can then predict carer time, and assuming that this has the same impact on well-being as time away from normal activities has on patients, predict carer utility. **RESULTS:** A simple relationship shows that a reduction in utility of 0.10 was associated with a 0.017 reduction in carer utility (i.e. QALY gains are increased by 17%). More complex models looked at the type of disabilities that were associated with greater or lesser carer effects. **CONCLUSION:** This work is preliminary, but points to the possibility of a general relationship between patient and carer QoL. Additional research is required that directly measures carer QoL, and identifies whether it was influenced by the general health of the patient or specific disabilities. Any widespread effect may have a profound effect on the future funding decisions.

## PHPI6

**FAMILIES, FRIENDS AND COST-EFFECTIVENESS ANALYSIS**

Basu A, Meltzer D

University of Chicago, Chicago, IL, USA

**OBJECTIVE:** To study the effects of improvement in patients' health on the welfare of their family members and its implications to medical cost-effectiveness analysis. **METHODS:** We use a theoretical model based on a family utility function with altruistic linkages to show that there can be direct and indirect welfare effects to all family members. Using the SEER-Medicare database we test the predictions of our model by studying treatment choice of prostate cancer patient by age and marital statuses. **RESULTS:** The theoretical model suggests that a health intervention has both the traditional direct effects on the patient, and spillover effects on the family. In a 2-person household, the spillover effect is first the average change in QOL of the spouse multiplied second by the probability that the patient remains married at all future time periods. The magnitude and direction of the first component is based on a tradeoff between positive spillover effects due to treatment related survival and QOL benefits to the patient and negative spillover effects due to side effects of treatment. Treatments for clinically localized prostate cancer present such tradeoffs with positive spillover effects to the spouse dominating for patients aged 60–70 years and vice versa for older patients. Since the second component differs between married and unmarried patients between these two age ranges, we are able to test our theory by studying differences in treatment choice between married and unmarried patients by age. After controlling for clinical characteristics and patient demographics, we find that the proportion of married patients 60–70 years of age who choose aggressive treatments for prostate cancer is significantly greater than the corresponding proportion of unmarried patients. This pattern reverses at higher ages of the patient. **CONCLUSIONS:** We conclude that cost-effectiveness analyses may better reflect the full costs and benefits of medical interventions if they incorporate these family effects.